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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/551,385

09/29/2005

Youichi Arai

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EXAMINER

PIGGUSH, AARON C

ART UNIT

PAPER NUMBER

2838

MAIL DATE

DELIVERY MODE

09/25/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/551,385	Applicant(s) ARAI ET AL.	
	Examiner Aaron Piggush	Art Unit 2838	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>8/17/06 & 9/29/05</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 3, and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by Palanisamy (US 5,281,919).

With respect to claims 1 and 4, Palanisamy discloses a battery condition monitor and method for monitoring a condition of a battery, comprising: a first deterioration detector for detecting a first deterioration degree cause by increase of an internal resistance of the battery (abstract, col 3 ln 32-41, and col 3 ln 58 to col 4 ln 6); and a second deterioration detector for detecting second deterioration degree caused by decrease of active material of the battery to cause decrease of a charge capacity of the battery (col 10 ln 20-34, abstract, and col 3 ln 58 to col 4 ln 6); wherein the condition of the battery is monitored based on the first deterioration degree and the second deterioration degree.

With respect to claim 3, Palanisamy discloses wherein the second deterioration detector detects the second deterioration based on a decreasing value of the charge capacity at full-charge of the battery at any time corresponding to the charge capacity at full-charge of a new battery (col 10 ln 20-34 and col 14 ln 25-34).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Palanisamy (US 5,281,919).

With respect to claim 2, Palanisamy discloses wherein the first deterioration detector obtains a direct current resistance of the battery based on a discharge current and terminal voltage of the battery detected in discharging (abstract, col 3 ln 16 to col 4 ln 10, and col 7 ln 39-61), and obtains a saturated polarization, as a saturated value of a voltage drop by the internal resistance other than the direct current resistance, based on the discharge current and the terminal voltage of the battery detected in discharging and the direct current resistance of the battery (abstract, col 3 ln 32 to col 4 ln 19, and col 9 ln 22-57), and detects the first deterioration degree based on the direct current resistance and the saturated polarization.

However, Palanisamy does not expressly disclose wherein the discharging is a high rate discharging (although the sudden discharge when starting the vehicle, as seen in Fig. 4, can reasonably be considered a high rate discharge).

At the time of invention, it would have been obvious to one of ordinary skill in the art to use a high rate discharge in the device of Palanisamy, so that the battery's response could be tested under various conditions (i.e. applications that use high-rate discharge batteries), which results in greater knowledge of how the battery will act in different applications, since it has been

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held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

With respect to claim 5, Palanisamy discloses wherein the second deterioration detector detects the second deterioration based on a decreasing value of the charge capacity at full-charge of the battery at any time corresponding to the charge capacity at full-charge of a new battery (col 10 ln 20-34 and col 14 ln 25-34).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aaron Piggush whose telephone number is 571-272-5978. The examiner can normally be reached on Monday-Friday 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Karl Easthom can be reached on 571-272-1989. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AP


KARL EASTHOM
SUPERVISORY PATENT EXAMINER